

Customer No.: 31561
Application No.: 10/604,131
Docket No.: 10461-US-PA

To the Title:

Please amend the title as follows:

HAND-HELD APPARATUS ~~WITH THE~~ HAVING A TOUCH CONTROL
DEVICE FOR TURNING ON/OFF A DISPLAY MODULE

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To the Specification:

Please amend paragraph [0024] as follows:

[0024] FIG. 1 schematically shows the appearance of a hand-held apparatus with the touch control device of a preferred embodiment according to the present invention. As shown in FIG. 1, the hand-held apparatus 10 (e.g. mobile phone, PDA, or hand-held computer) comprises a metal slice 102 and a display 104, wherein the display 104 contains a backlight (not shown) 106. FIG. 2 schematically shows a circuit block diagram of a hand-held apparatus with the touch control device of a preferred embodiment according to the present invention. As shown in FIG. 2, the hand-held apparatus 20 comprises a metal slice 202, a control circuit 22, and a display 212, wherein the control circuit 22 comprises an amplifier 204, a rectifier 206, a filter 208, and a microprocessor 210. The functions of the hand-held apparatus 10 are described in detail hereinafter.

Please amend paragraph [0025] as follows:

[0025] The metal slice 202 is located on the surface of the hand-held apparatus 20, when the user touches the metal slice 202 with his/her finger; the metal slice 202 will generate an AC signal will be generated. Generally speaking, when the metal slice 202 is touched by a user's finger, the metal slice 202 will generate a 60 Hz AC signal. The amplifier 204 coupled to the metal slice 202 is used to amplify the AC signal and output the amplified AC signal. The

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rectifier 206 coupled to the amplifier 204 is used to rectify the amplified AC signal and output the rectified signal. The filter 208 coupled to the rectifier 206 is used to filter the rectified signal and output a DC pulse signal. The microprocessor 210 coupled to the rectifier 208 is used to control the hand-held apparatus 20 based on the DC pulse signal. When the display 212 is in a turned off state, if the [[user's]] user's finger touches the metal slice 202, the display 212 is turned on, and when the metal slice 202 is touched again, the display 212 is turned off. In addition, when the backlight 106 in the display 212 is in the turned off state, if the [[user's]] user's finger touches the metal slice 202, the backlight 106 is turned on, and when the metal slice 202 is touched again, the backlight 106 is turned off. Moreover, when the keyboard of the hand-held apparatus 20 is locked, if the [[user's]] user's finger touches the metal slice 202, the hand-held apparatus unlocks the keyboard, and when the metal slice 202 is touched again, the hand-held apparatus locks the keyboard.

Please amend paragraph [0027] as follows:

[0027] The metal slice 402 is located on the surface of the hand-held apparatus 40 and coupled to a positive voltage (e.g. 3V). The metal slice 404 is located on the surface of the hand-held apparatus 40. An electrode of the resistor 406 is coupled to the metal slice 404 and a non-inverse input terminal of the comparator 408, and the other electrode of the resistor 406 is grounded. The inverse input terminal of the comparator 408 is coupled to a reference voltage Vref (e.g. 1.5V), and the output terminal of the comparator 408 is coupled to the display 410. In the preferred embodiment, when the [[user's]] user's finger touches both the metal slice 402 and the metal slice 404 simultaneously, the finger equals a resistor of 50K Ω

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50KΩ, thus the voltage on the non-inverse input terminal of the comparator 408 is 2V. Since the voltage on the non-inverse input terminal is greater than the voltage on the inverse input terminal (1.5V), the comparator 408 outputs a high level signal so as to turn on the display 410 or the backlight in the display 410, or the hand-held apparatus 40 unlocks the keyboard. When the [[user's]] user's finger leaves the metal slice 402 and the metal slice 404 (i.e. the metal slice 402 and the metal slice 404 are open circuited), the voltage on the non-inverse input terminal of the comparator 408 is 0V, since the voltage on the non-inverse input terminal is less than the voltage on the inverse input terminal (1.5V), the comparator 408 outputs a low level signal so as to turn off the display 410 or the backlight in the display 410, or the hand-held apparatus 40 locks the keyboard.